



PTO/SB/08a (08-03)

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet

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of

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**Complete if Known**

Application Number	10/711279
Filing Date	September 7, 2004
First Named Inventor	Gary Haughton
Art Unit	
Examiner Name	
Attorney Docket Number	93177pusB

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
→  R/S  ← All considered R/S		US- 6,070,348	06-06-2000	Bianchetti	
		US- 6,007,237	12-28-1999	Latto	
		US- 5,947,784	09-07-1999	Cullen	
		US- 5,813,760	09-29-1998	Strong	
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		US- 5,100,242	03-31-1992	Latto	
		US- 5,052,813	10-01-1991	Latto	
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		US- 4,189,362	02-19-1980	Dotson	
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	US- 4,054,503	10-18-1977	Higgins		

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Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>3</sup>
		Country Code <sup>2</sup>	Number <sup>1</sup>	Kind Code <sup>3</sup> (if known)				
R/S	F1	DE	75 04 145	U	06-19-1975	Muller		
R/S	F2	SU	858 898	A	08-30-1981	Umarnskii		
R/S	F3	SU	967 541	A	10-23-1982	Fomenko		
R/S	F4	FR	2 605 244	A	04-22-1988	Bionaz		
R/S	F5	WO	02/083280	A1	10-24-2002	Arnosco Technology Ltd.		

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Sheet 2 of 5

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First Named Inventor	Gary Haughton
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Examiner Name	
Attorney Docket Number	93177pusB

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All cited references		US- 3,912,237	10-14-1975	Ostberg et al.	
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		US- 3,214,148	10-26-1965	Thomas	
		US- 2,661,938	12-08-1953	Kuentzel et al.	
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		US- 2,064,402	12-15-1936	Bannister et al.	
		US- 1,408,596	03-07-1922	Heinrich	
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		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
TS	F6	JP	11 184 420	A	07-09-1999	Mitsubishi Electric Corp.		
TS	F7	GB	1 147 378	A	04-02-1969	Davis		
TS	F8	JP	63104638		05-10-1988	Yoshida Masatoshi		
TS	F9	DE	7416500		08-22-1974	Messerschmitt- Bolkow-Blohm		

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		Country Code <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
BS	110	FR	1 604 693	A	01-03-1972	Institut Merieux		

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Application Number 10/711279

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First Named Inventor Gary Haughton

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Examiner Name

Attorney Docket Number 93177pusB

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
TBS	N1	TURNER, J.S. Intermittent Release of Smoke from Chimneys. Journal of Mechanical Engineering Science 1960, Vol. 2, No. 2, pages 97-100.	
TBS	N2	KENDIG, F. The Science of Smoke Rings and Doughnuts. Saturday Review, March 18, 1972, pages 40 and 44.	
TBS	N3	MAXWORTHY, T. Turbulent Vortex Rings. J. Fluid Mech. 1974, Vol. 64, Part 2, pages 227-239.	
TBS	N4	BAIRD et al. Velocity and Momentum of Vortex Rings in Relation to Formation Parameters. The Canadian Journal of Chemical Engineering, February 1977, Vol. 55, pages 19-26.	
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TBS	N8	PULLIN, D.I. Vortex Ring Formation at Tube and Orifice Openings. Phys. Fluids 22(3), March 1979, pages 401-403.	
TBS	N9	ROHATGI et al. Mixing Effects and Hydromatics of Vortex Rings. The Canadian Journal of Chemical Engineering, August 1979, Vol. 57, pages 416-424.	
TBS	N10	DIDDEN, N. On the Formation of Vortex Rings: Rolling-Up and Production of Circulation. Journal of Applied Mathematics and Physics (ZAMP) 1979, Vol. 30, pages 101-116.	
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TBS	N12	ROHATGI et al. Gas Absorption at a Liquid Surface Agitated by Vortex Rings. The Canadian Journal of Chemical Engineering, June 1981, Vol. 59, pages 303-309.	

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TCS	N13	GLEZER, A. An Experimental Study of a Turbulent Vortex Ring. Ph.D. Thesis at California Institute of Technology, Pasadena, California, 1981.	
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